

Investigating the Fermi motion smearing on the incoherent DVCS channel

October 4, 2018

Following our emails on investigating the Fermi motion effect on smearing our t -bin values in the incoherent DVCS channel, here in figure 1 I show the t distributions of our binning in t . On the simulation side, figure 2 shows the initial proton's Fermi momentum distribution of the simulated incoherent DVCS. To estimate the smearing of Fermi motion on t values, in figure 3 I calculated t by assuming that the initial proton is at rest (first row of plots) and using the exact generated initial proton kinematics (second row of plots). In the third row of figure 3, I show the difference between the two calculated t values for the different bins.

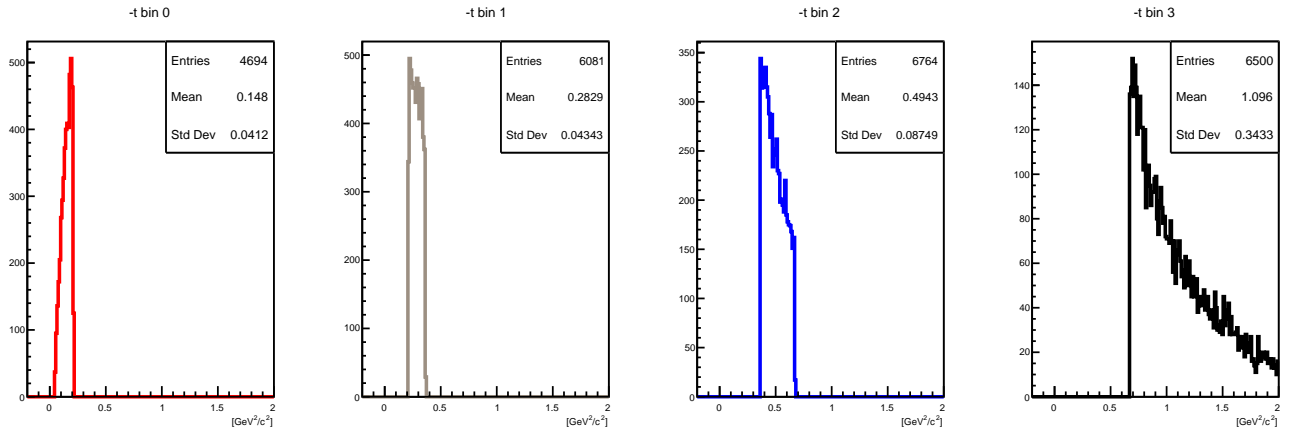


Figure 1: t distributions for our experimental four bins in t .

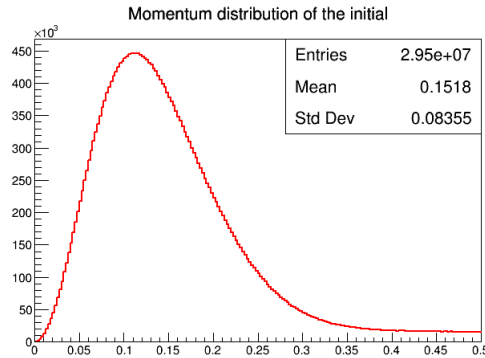


Figure 2: The Fermi momentum distribution of the initial proton in the simulated incoherent DVCS events.

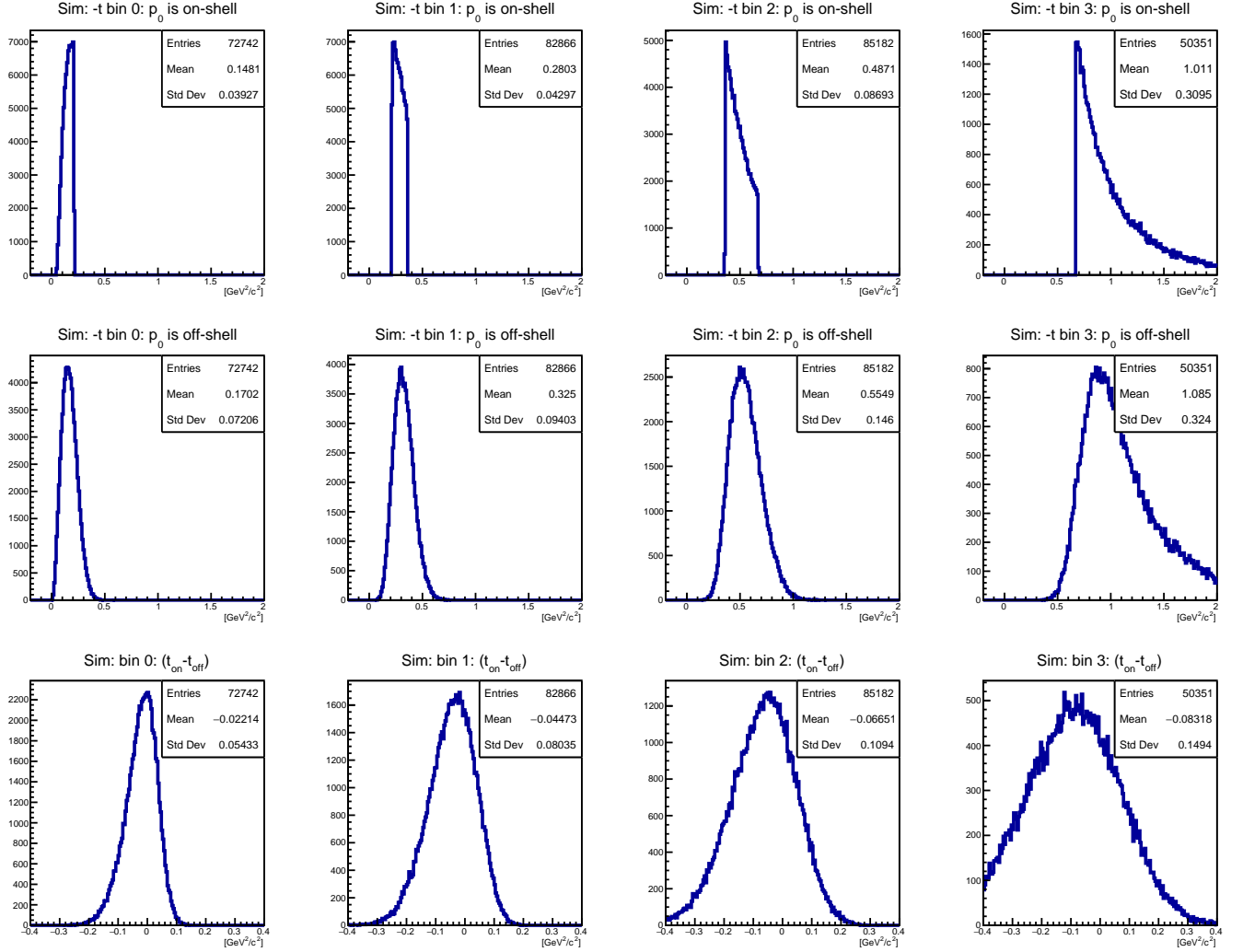


Figure 3: t distributions for the simulated incoherent DVCS events. From left to right are our four bins in t . In the first row of plots, t is calculated assuming the initial proton is on-shell. In the second row plots, t is calculated using the true generated momentum of the initial proton. In the third row, I show the difference between the two calculated t values.